

REMARKS

Upon entry of this Amendment, claims 1-27 and 29-48 are pending in the application. Applicant thanks the Examiner for the indication of allowable subject matter in claims 20, 32, 33, and 47. Applicant cancels claim 28 by this Amendment. Applicant adds claim 48 by this Amendment to define further patentable subject matter.

103 Rejections

The Examiner has rejected claims 1-12, 14-19, 21-25, 27-31, 34-43, and 45 under 35 U.S.C. 103(a) as being unpatentable over Bradenbaugh (U.S. 5,831,250) in view of DeSantis (U.S. 6,516,141). Claims 13, 26, and 44 are rejected as being unpatentable over Bradenbaugh in view of DeSantis and further in view of Reusche et al. (U.S. 6,151,448).

Referring to the Examiner's remarks in paragraph 2 on page 2 to paragraph 2 on page 3 with regard to independent claims 1, 21, and 35, the Examiner states that it would have been obvious to one of ordinary skill in the art to modify the device of the Bradenbaugh reference to include a mounting device having a heat dissipation element in order to both dissipate heat generated by the heating element in a dry fire condition as well as to dissipate heat generated by the heating element and the electronic control circuitry along the lines of the device of the DeSantis reference. Applicant respectfully disagrees.

Amended independent claim 1 recites, among other things, a thermally conductive mounting device coupled to the exterior surface of a vessel, the mounting device comprising a base having a first surface configured to follow the shape of the exterior

surface of the vessel. The first surface of the mounting device of claim 1 is configured to follow the exterior surface of the vessel to maximize the surface area between the mounting device and the surface of the vessel for heat exchange between the mounting device and the vessel. With reference to Figs. 1, 4, and 8 of the DeSantis reference, the temperature control system 160 does not follow the shape of the exterior surface of the tank body 105 because the temperature control system 160 rests on the ribs formed along the outside of the tank body 105 that are raised away from the tank body 105. Thus, when the temperature control system 160 is mounted to the tank body 105, dead space exists between the temperature control system 160 and the tank body 105 in the areas where no ribs are present. This dead space is not conducive to heat transfer between the temperature control system and the tank body.

Further, if the temperature control system 160 were applied directly to the water heater tank of Bradenbaugh, the first surface of the temperature control system 160 is a flat surface that would be applied to the arcuate surface of the Bradenbaugh tank. Once again, the temperature control system 160 would not follow the shape of the exterior surface of the vessel, as disclosed in claim 1. Thus, Applicant respectfully submits that the combination of the Bradenbaugh and DeSantis references does not teach each and every element of the claim.

For these and other reasons not discussed herein, independent claim 1 is allowable. Dependent claims 2-20 depend from claim 1, and are allowable for the reasons discussed above for claim 1, and for other reasons that may or may not be discussed herein.

Amended dependent claim 11 depends from independent claim 1 and is thus allowable for the reasons discussed above with respect to claim 1. Claim 11 is allowable over the combination of Bradenbaugh and DeSantis for additional reasons. Claim 11 recites that the mounting device comprises a thermally conductive, electrically dielectric material such that heat conducted by the mounting device can pass to the exterior surface of the vessel. As shown in Fig. 4 of the DeSantis reference, the switch 405 is coupled to the thermostat 145 of the mounting device. The DeSantis mounting device includes a thermostat insulator pad 147 that insulates the thermostat 145 from the exterior surface of the tank body 105, preventing heat from passing to the exterior surface of the tank body 105 (see Col. 5, lines 30-34 and Figs. 1 and 5 of the DeSantis reference). As discussed in DeSantis, the heat sink 149 dissipates excess heat generated from the temperature bracket 130. The heat sink 149 is thermally insulated from the surface of the tank body 105 by the insulator pad 147 and thus the heat sink 149 can only pass heat generated from the device to the ambient atmosphere surrounding the heat sink 149. Thus, the combination of Bradenbaugh and DeSantis does not teach or suggest each and every element of claim 11.

Applicant has amended claim 21 to correct an antecedent basis typographical error. Applicant has also amended independent claim 21 to recite, among other things, at least one heat-dissipating element integrally formed with the second surface of the base, wherein the heat dissipation device comprises a thermally conductive, electrically dielectric material to conduct heat from the heat-generating component to the heat sink. The fins of the heat sink 149 of DeSantis are coupled to the thermostat 145 via a screw, as illustrated in Fig. 1 of DeSantis, and are not integrally formed with the second surface.

Further, whether the Examiner considers the temperature control system 160 to be the heat dissipation device, or whether the Examiner considers the thermostat 145 to be the heat dissipation device, the heat dissipation device of DeSantis does not conduct heat from the heat-generating component to the tank body 105 (i.e., the heat sink). The insulator pad 147 coupled between the thermostat 145 and the tank body 105 prevents any heat generated by the heat-generating component (which is coupled to the second surface of the base – i.e., the thermostat 145) from being conducted to the tank body 105. Thus, the combination of Bradenbaugh and DeSantis does not teach each and every element of claim 21.

For these and other reasons not discussed herein, independent claim 21 is allowable. Dependent claims 22-34 and new claim 48 depend from claim 21, and are allowable for the reasons discussed above for claim 21, and for other reasons that are not discussed herein.

Independent claim 35 claims, among other things, a water tank having an arcuate exterior surface; and thermally conductive mounting device coupled to the water tank, the mounting device having a base having an arcuate first surface to substantially follow the shape of the exterior surface of the water tank. Applicant respectfully submits that there is no teaching or suggestion in the combination of the Bradenbaugh and DeSantis references to provide a mounting device with a base having an arcuate surface that substantially follows the shape of the exterior surface of the tank, and thus, there is no teaching or suggestion of each and every element of claim 35. The temperature control system 160 taught by DeSantis could be mounted to the outside of the water tank of Bradenbaugh without providing an arcuate surface and there is no teaching in the

references to provide a mounting device with a base having an arcuate surface. The result of providing a base having an arcuate surface to substantially follow the exterior surface of the tank is to maximize the surface area between the base and the water tank, which is taught only in the instant application. Applicant respectfully submits that to find such a suggestion in the combination of the Bradenbaugh and DeSantis references would require the use of impermissible hindsight by the Examiner. Thus, Applicant respectfully submits that independent claim 35 is allowable over the combination of Bradenbaugh and DeSantis.

For these and other reasons not discussed herein, independent claim 35 is allowable. Dependent claims 36-47 depend from claim 35, and are allowable for the reasons discussed above for claim 35, and for other reasons that are not discussed herein.

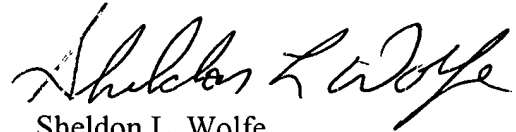
The Examiner further cites Reusche, et al. (U.S. 6,151,448) in rejecting claims 13, 26, and 44. The Reusche reference does not correct the deficiencies of Bradenbaugh and DeSantis as discussed above, and therefore claim 13, which depends from claim 1, claim 26, which depends from claim 21, and claim 44, which depends from claim 35, are allowable for the reasons set forth above, as well as for other reasons that are not discussed herein.

Conclusion

In view of the foregoing, entry of the above amendment and allowance of claims 1-27 and 29-48 are respectfully requested.

The undersigned is available for telephone consultation at any time during normal business hours.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Sheldon L. Wolfe". The signature is fluid and cursive, with the first name "Sheldon" being more prominent.

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